

12 SUBMITTING OFFSITE CONSEQUENCE ANALYSIS INFORMATION FOR RISK MANAGEMENT PLAN

In Chapter 12

- 12.1 Information you are required to submit for worst-case scenarios for toxic substances.
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- 12.4 Information you are required to submit for alternative scenarios for flammable substances.

For the offsite consequence analysis (OCA) component of the RMP you must provide information on your worst-case and alternative release scenario(s) for toxic and flammable regulated chemicals held above the threshold quantity. The requirements for what information you must submit differ if your source has Program 1, Program 2, or Program 3 processes.

If your source has Program 1 processes, you must submit information on a worst-case release scenario for each Program 1 process. If your source has Program 2 or Program 3 processes, you must provide information on one worst-case release for all toxic regulated substances present above the threshold quantity and one worst-case release scenario for all flammable regulated substances present above the threshold quantity. You may need to submit an additional worst-case scenario if a worst-case release from another part of the source would potentially affect public receptors different from those potentially affected by the initial worst-case scenario(s) for flammable and toxic regulated substances.

In addition to a worst-case release scenario, sources with Program 2 and Program 3 processes must also provide information on alternative release scenarios. Alternative releases are releases that could occur, other than the worst-case, that may result in concentrations, overpressures, or radiant heat that reach endpoints offsite. You must present information on one alternative release scenario for each regulated toxic substance, including the substance used for the worst-case release, held above the threshold quantity and one alternative release scenario to represent all flammable substances held above the threshold quantity. The types of documentation to submit are presented below for worst-case scenarios involving toxic substances, alternative scenarios involving toxic substances, worst-case scenarios involving flammable substances, and alternative scenarios involving flammable substances.

12.1 RMP Data Required for Worst-Case Scenarios for Toxic Substances

For worst-case scenarios involving toxic substances, you will have to submit the following information. See the RMP*Submit User Manual for complete instructions.

- Chemical name;
- Percentage weight of the regulated liquid toxic substance (if present in a mixture);

- Physical state of the chemical released (gas, liquid, refrigerated gas, gas liquefied by pressure);
- Model used (OCA or industry-specific guidance reference tables or modeling; name of other model used);
- Scenario (gas release or liquid spill and vaporization);
- Quantity released (pounds);
- Release rate (pounds per minute);
- Duration of release (minutes) (10 minutes for gases; if you used OCA guidance for liquids, indicate either 10 or 60 minutes);
- Wind speed (meters per second) and stability class (1.5 meters per second and F stability unless you can show higher minimum wind speed or less stable atmosphere at all times during the last three years);
- Topography (rural or urban);
- Distance to endpoint (miles, rounded to two significant digits);
- Population within distance to endpoint (residential population rounded to two significant digits);
- Public receptors within the distance to endpoint (schools, residences, hospitals, prisons, recreation areas, commercial, office or industrial areas);
- Environmental receptors within the distance to endpoint (national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, or refuges; Federal wilderness areas); and
- Passive mitigation measures considered (dikes, enclosures, berms, drains, sumps, other).

12.2 RMP Data Required for Alternative Scenarios for Toxic Substances

For alternative scenarios involving toxic substances held above the threshold quantity in a Program 2 or Program 3 process, you will have to submit the following information. See the Risk Management Plan Data Elements Guide for complete instructions.

- Chemical name;
- Percentage weight of the regulated liquid toxic substance (if present in a mixture);
- Physical state of the chemical released (gas, liquid, refrigerated gas, gas liquefied by pressure);
- Model used (OCA or industry-specific guidance reference tables or modeling; name of other model used);
- Scenario (transfer hose failure, pipe leak, vessel leak, overfilling, rupture disk/relief valve, excess flow valve, other);
- Quantity released (pounds);
- Release rate (pounds per minute);
- Duration of release (minutes) (if you used OCA guidance, indicate either 10 or 60 minutes);
- Wind speed (meters per second) and stability class (3.0 meters per second and D stability if you use OCA guidance, otherwise use typical meteorological conditions at your site);
- Topography (rural or urban);
- Distance to endpoint (miles, rounded to two significant digits);
- Population within distance to endpoint (residential population rounded to two significant digits);

- Public receptors within the distance to endpoint (schools, residences, hospitals, prisons, recreation areas, commercial, office, or industrial areas);
- Environmental receptors within the distance to endpoint (national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, or refuges; Federal wilderness areas);
- Passive mitigation measures considered (dikes, enclosures, berms, drains, sumps, other); and
- Active mitigation measures considered (sprinkler system, deluge system, water curtain, neutralization, excess flow valve, flares, scrubbers, emergency shutdown system, other).

12.3 RMP Data Required for Worst-Case Scenarios for Flammable Substances

For worst-case scenarios involving flammable substances, you will have to submit the following information. See the Risk Management Plan Data Elements Guide for complete instructions.

- Chemical name;
- Model used (OCA or industry-specific guidance reference tables or modeling; name of other model used);
- Scenario (vapor cloud explosion);
- Quantity released (pounds);
- Endpoint used (for vapor cloud explosions use 1 psi);
- Distance to endpoint (miles, rounded to two significant digits);
- Population within distance to endpoint (residential population rounded to two significant digits);
- Public receptors within the distance to endpoint (schools, residences, hospitals, prisons, recreation areas, commercial, office, or industrial areas);
- Environmental receptors within the distance to endpoint (national or state parks, forests, or monuments, officially designated wildlife sanctuaries, preserves, or refuges, Federal wilderness areas); and
- Passive mitigation measures considered (blast walls, other).

12.4 RMP Data Required for Alternative Scenarios for Flammable Substances

For alternative scenarios involving flammable substances held above the threshold quantity in a Program 2 or Program 3 process, you will have to submit the following information. See the Risk Management Plan Data Elements Guide for complete instructions.

- Chemical name;
- Model used (OCA or industry-specific guidance reference tables or modeling; name of other model used);
- Scenario (vapor cloud explosion, fireball, BLEVE, pool fire, jet fire, vapor cloud fire, other);
- Quantity released (pounds);
- Endpoint used (for vapor cloud explosions, the endpoint is 1 psi overpressure; for a fireball the endpoint is 5 kw/m² for 40 seconds. A lower flammability limit (expressed as a percentage) may be listed as specified in NFPA documents or other generally recognized sources; these are listed in the OCA Guidance);
- Distance to endpoint (miles, rounded to two significant digits);

- Population within distance to endpoint (residential population rounded to two significant digits);
- Public receptors within the distance to endpoint (schools, residences, hospitals, prisons, recreation areas, commercial, office, or industrial areas);
- Environmental receptors within the distance to endpoint (national or state parks, forests, or monuments, officially designated wildlife sanctuaries, preserves, or refuges, Federal wilderness areas);
- Passive mitigation measures considered (e.g., dikes, fire walls, blast walls, enclosures, other); and
- Active mitigation measures considered (e.g., sprinkler system, deluge system, water curtain, excess flow valve, other).

12.5 Submitting RMPs

EPA's automated tool for submitting RMPs, RMP*Submit is available free from the EPCRA hotline (on disk) or can be downloaded from www.epa.gov/ceppo/. The *RMP*Submit User's Manual* provides detailed instructions for each data element. RMP*Submit does the following:

- Provides a user-friendly, PC-based RMP Submission System available on diskettes and via the Internet;
- Uses a standards-based, open systems architecture so private companies can create compatible software; and
- Performs data quality checks, accept limited graphics, and provide on-line help including defining data elements and providing instructions.

The software runs on Windows 3.1 and above. There will not be a DOS or MAC version.

If you are unable to submit electronically for any reason, just fill out the Electronic Waiver form available in the *RMP*Submit User's Manual* and send it in with your RMP. See the *RMP*Submit User's Manual* for more information on the Electronic Waiver.

12.6 Other Required Documentation

Besides the information you are required to submit in your RMP, you must maintain other records of your offsite consequence analysis on site. Under 40 CFR 68.39, you must maintain the following records:

- For worst-case scenarios, a description of the vessel or pipeline and substance selected as the worst case, the assumptions and parameters used, and the rationale for selection. Assumptions include any administrative controls and any passive mitigation systems that were used to limit the quantity that could be released. You must document that anticipated effects of these controls and systems on the release quantity and rate.
- For alternative release scenarios, a description of the scenarios identified, the assumptions and parameters used, and the rationale for selection of the specific scenarios. Assumptions include any administrative controls and any passive mitigation systems that were used to

limit the quantity that could be released. You must document that anticipated effects of these controls and systems on the release quantity and rate.

- Documentation of estimated quantity released, release rate, and duration of the release.
- Methodology used to determine distance to an endpoint.
- Data used to estimate populations and environmental receptors potentially affected.

You are required to maintain these records for five years.

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